



## PATENT ABSTRACTS OF JAPAN

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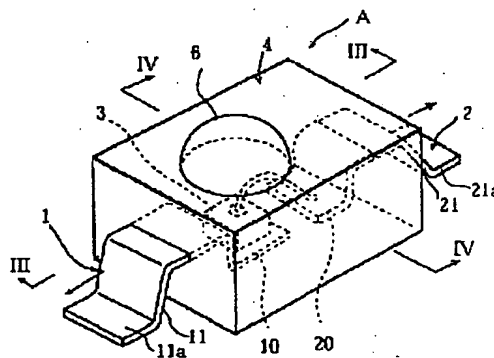
(72) Inventor: **SANO MASASHI**  
**SUZUKI NOBUAKI**  
**SUZUKI SHINICHI**

**(54) SEMICONDUCTOR DEVICE****(57) Abstract:**

**PROBLEM TO BE SOLVED:** To avoid the wire disconnection in a resin package in the case of mounting a semiconductor device in a circuit board, etc., using solder reflow technique.

**SOLUTION:** In a semiconductor device A provided with the first inner lead 10 having a diebonding region for mounting a semiconductor chip 3 in an inner end part as well as the second inner lead 20 having wire-bonding region in an inner end part, a resin package 4 in a specific thickness formed into almost rectangular planar view, the first and second outer leads 11, 21, the first inner lead 10 has a cranked diebonding region in the stepped down shape, likewise the second inner lead 20 has a cranked wirebonding region in the stepped down shape making their respective features.

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## (54) LIGHT EMITTING DIODE PACKAGE

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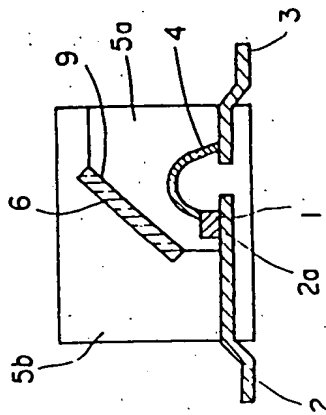
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(71) HITACHI LTD (72) MASARU MOCHIZUKI(I)

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**PURPOSE:** To obtain a light emitting diode package in which the direction of an emitted light can be set freely and which can be surface mounted by providing a reflecting surface in which its optical axis can be bent in sealing resin of the package, and forming the end face at the light emitting side of a diode chip of a curved surface.

**CONSTITUTION:** A light emitting diode chip 1 is secured to a chip placing part 2a of a lead 2, provided at the base end of the lead 2, and connected to the base end of other lead 3. It is sealed with resin 5a having a property of transmitting a light. A planar oblique surface is so formed on a part corresponding to an optical path of the resin 5a as to be formed at an angle of 45 degrees to the lead 2, a reflecting mirror 6 for bending the optical axis of the emitted light is mounted, and the reflecting surface 9 of the mirror 6 is opposed to the chip 1. The emitted light is reflected on the surface 9, and the axis after the reflection is formed at a right angle to the optical axis before the reflection.



5b: resin

## LEGENDE zu den Bibliographiedaten

(54) Titel der Patentanmeldung

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